

# Installation Instructions

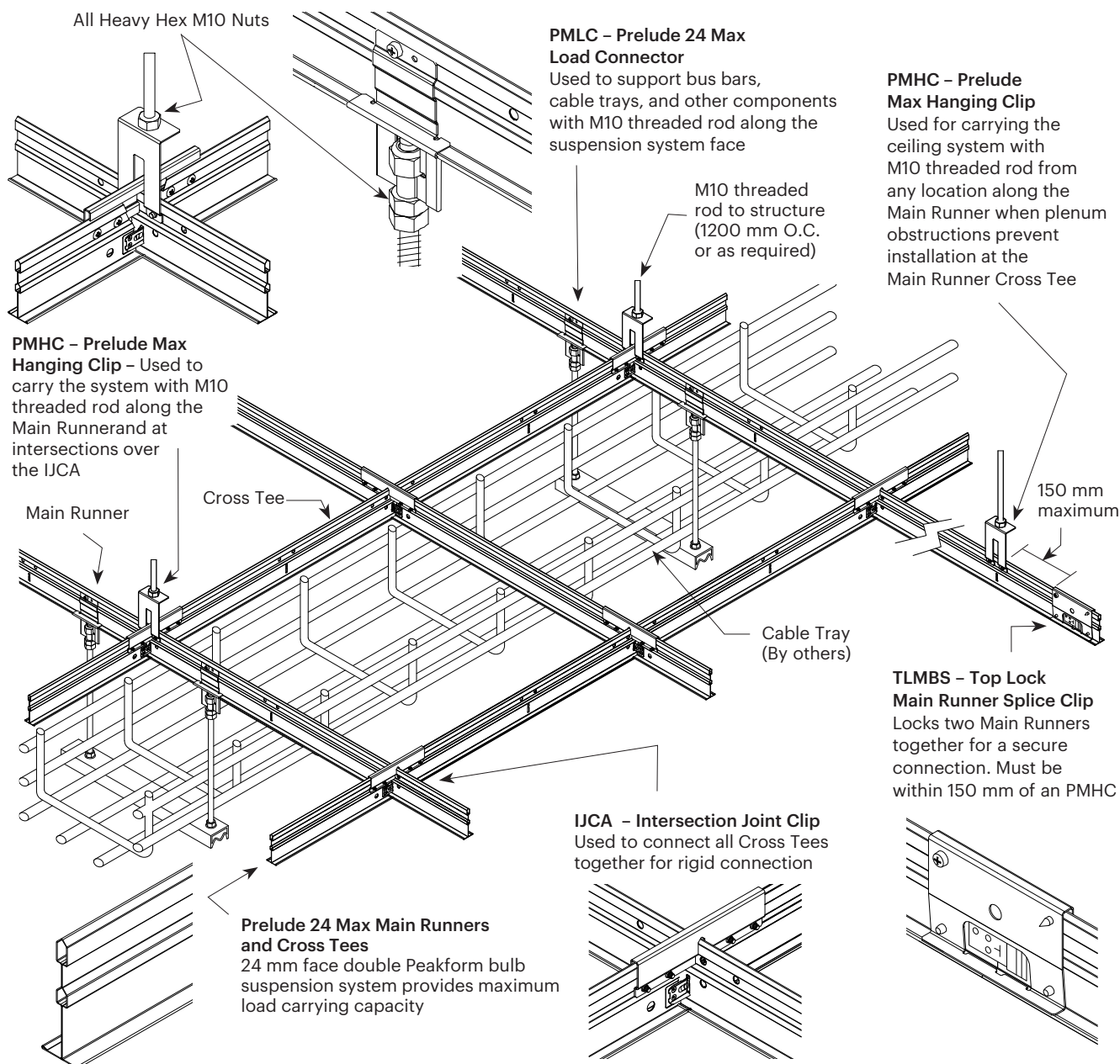
## Prelude 24 MAX

### Engineered Framing System and Data Centre Ceilings Solutions Assembly and Installation Instructions

#### SYSTEM OVERVIEW

The Prelude® 24 Max™ Suspension System is designed to offer flexible and reconfigurable support of cable trays, bus bars, hot aisle containment, and other hanging elements via M10 threaded rod connections to structure.

The diagrams below provide an overview of the suspension system components, clips, and accessories. Some hardware needs to be purchased separately. Refer to page two for details.



## HARDWARE THAT NEEDS TO BE PURCHASED SEPARATELY

- 8 x 12 S-Points Screws for the Top Lock Main Runner Splice (TLMBS) Clips, and for Prelude Max Load Connector (PMLC) Clips
- Plain Steel Blind Rivet, 3.5 mm diameter, 3.5 – 4.8 mm Grip Range, Shear Strength: 1150 N
- M10 Threaded Rod for Connections to Structure
- Blind Steel Pop Rivets 4.8 mm Diameter for installation of the TLMBS

**IMPORTANT NOTE:** The Prelude 24 Max Load Connector item PMLC is designed to be used with Prelude 24 Max Suspension System only. They are designed for specific duty loads that are specified in the load charts provided in the Engineered Framing System and Data Centre Ceilings Solutions Brochures. When hanging heavy loads greater than those specified in the load charts, consultation by a local engineer is required. Also, please be sure to review the installation and securing recommendations for any load that will be supported by the suspension system. Armstrong is not liable for improper use or improper installation of the Prelude 24 Max Suspension System or its components.

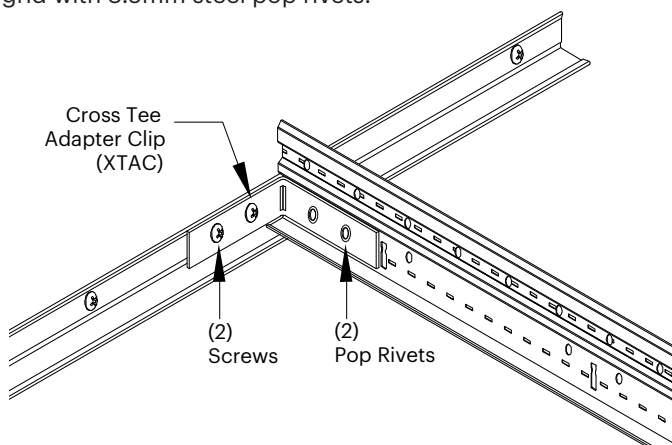
Please refer to the load charts for specific information on the allowable loads for the suspension system in the Engineered Framing System and Data Centre Ceilings Solutions Brochures.

## INSTALLATION CONSIDERATIONS

The Prelude® 24 Max™ Suspension System is designed to be installed with M10 threaded rod from structure.

**1.** Lay out the space, marking the locations of the hanger rods, Main Runners, and Cross Tees, and note any mechanicals that will be supported overhead. Be sure to follow the locations and direction of the threaded rod, hangers, Main Runners, Cross Tees of the engineering drawing if working from a Reflected Ceiling Plan from a specifying architect/engineer. If plumb threaded rod drops are not possible, then a trapeze or sub framing may be required. This sub or trapeze framing must be engineered to support the designed loads. You may also reference our trapeze chart in our Technical Guide.

**2.** Install either Aluminium Heavy Duty: Wall Angle (item ALSWA1) or Shadow Line Wall Angle (item ALSWA4) as per details in our Engineered Framing System and Data Centre Ceilings Solutions Brochures. Fix the Heavy Duty Wall Angle to studs or structure at a maximum of 600mm centres. All Cross Tees and Main Runners are to be connected to the Heavy Duty Wall Angle with an XTAC clip and fixing to the grid with 3.5mm steel pop rivets.

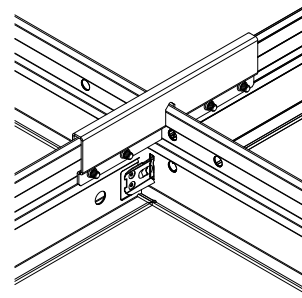


**IMPORTANT:** Rivets are properly installed when the compressed rivet body protrudes a minimum of approx. 3 mm past the XTAC surface.

**2.a.** Seismic designs are project specific. Contact your Armstrong Ceilings Technical Representative for additional information.

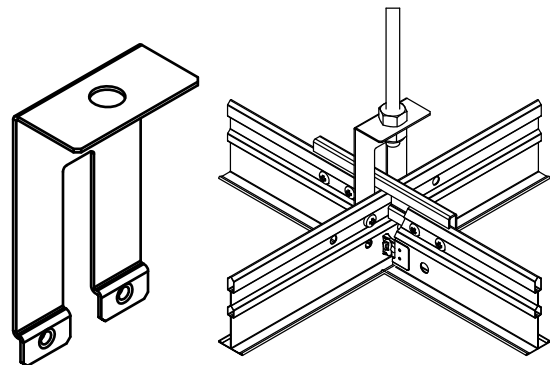
**3.** Mark the locations of the Main Runners and Cross Tees on the wall angle.

**4.** Install M10 threaded rod hangers into the soffit per the recommendations from the fastener manufacturer. Threaded hanger rods must be installed plumb with the Prelude Max Hanging Clip (PMHC) in all Main Runner-to-Cross Tee intersections 1200 mm O.C., unless otherwise specified.



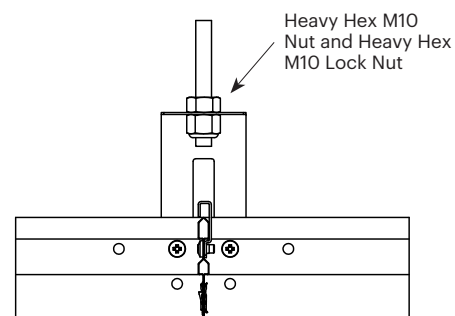
**5.** Insert the PMHC over the Main Runners and install M5 machine screws into holes through Main Runner and into the PMHC. Set the torque to a low torque on the drill motor for this process.

**NOTE:** Clips must be replaced if any screws are stripped out.



PMHC – Prelude Max Hanging Clip

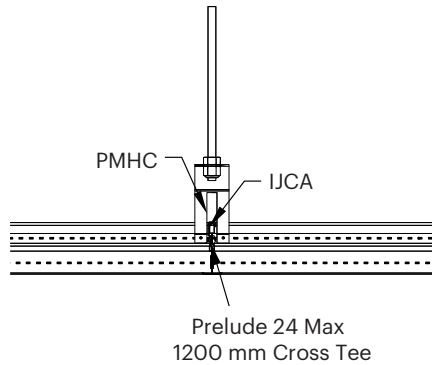
**5.a.** Thread the nut on the threaded rod per the installation detail. Tighten the M10 nuts until metal to metal contact is made and then turn an additional 1/4 turn with a wrench. Use all hardware provided with the PMHC. Threadlocker is required and has been pre-applied for ease of install.



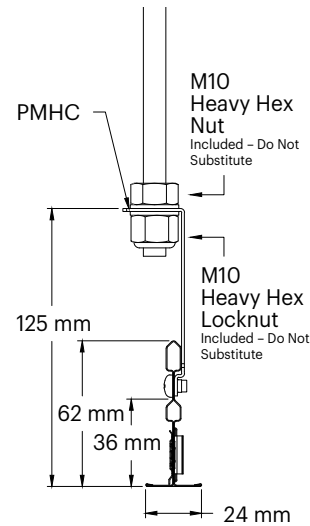
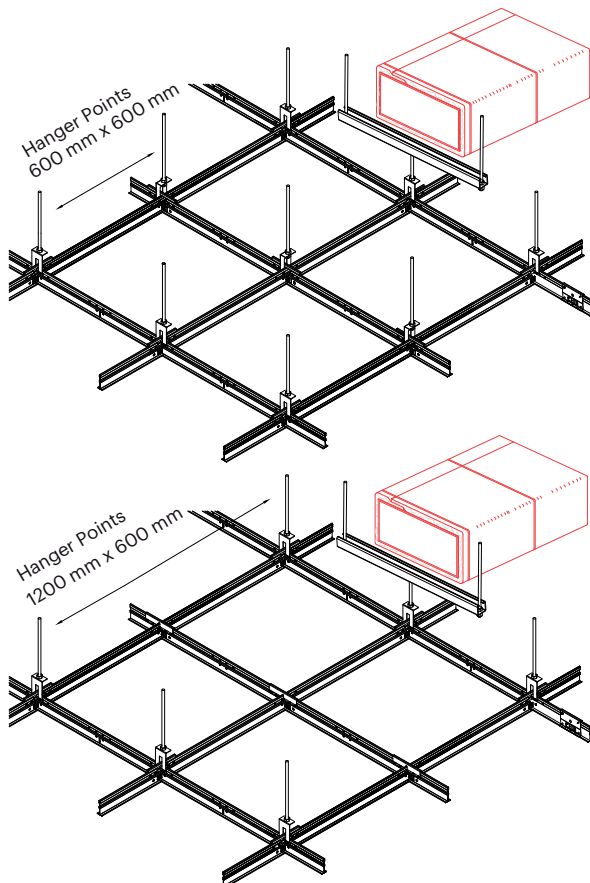
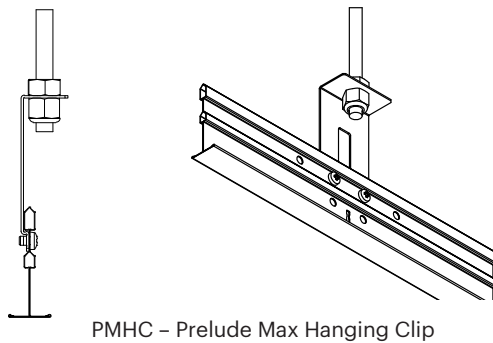
PMHC – Prelude Max Hanging Clip

**6.** Install the Cross Tees as they would be installed on any standard suspension system.

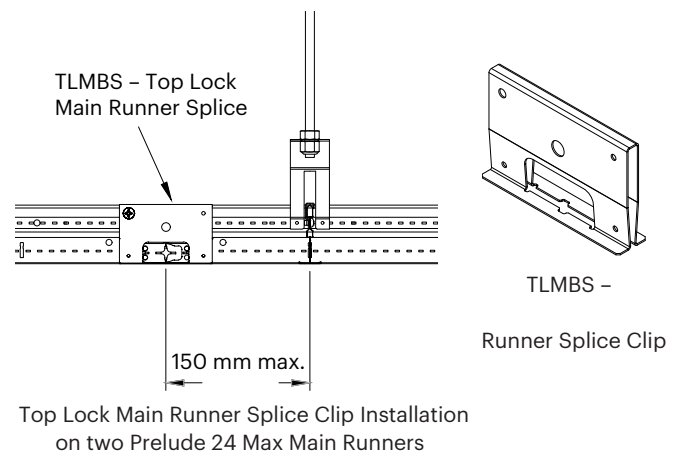
7. On every Main Runner-to-Cross Tee intersection and every 1200 mm Cross Tee-to-600 mm Cross Tee intersection, you must install an Intersection Joint Clip (IJCA). The IJCA is used to connect all Cross Tees together structurally. Attach the IJCA to the Cross Tees using four M5 machine screws and thread locker adhesive as shown below (Included with IJCA; do not substitute). All IJCA's running in the same line of grid need to be in the same orientation; facing the same direction. This will allow for easier ceiling panel installation.



**NOTE:** New rod location must be carefully located so that the new span does not exceed allowable limit per engineer.



8. When a desired location for the threaded rod to structure cannot be achieved at intersections (due to obstructions in the plenum), the Prelude Max Hanging Clip (PMHC) can be used in other locations along the length of the Main Runner. All PMHC clips need to be installed in the same direction, orientation as described above.



9. Install the Top Lock Main Runner Splice (TLMBS) onto each Main Runner coupling to secure the connection using two S-Point screws and two blind 4.8 mm steel pop rivets as shown in the detail below. Two holes must be drilled in the Main Runner to accommodate the two blind rivets. The Top Lock Main Runner Splice is required at every Main Runner splice location in the field of the installation.

**IMPORTANT:** To ensure rated load capacity, the threaded rod to structure must be installed within 150 mm of TLMBS as shown in the image above.

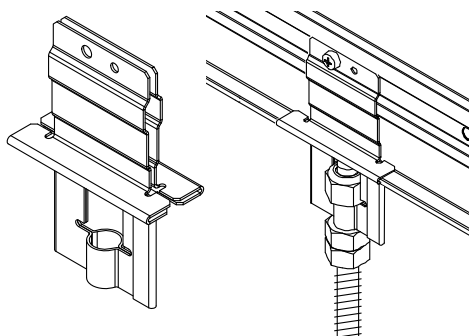
**IMPORTANT:** Rivets are properly installed when the compressed rivet body protrudes a minimum of 3.2 mm past the TLMBS surface.

**NOTE:** For rivet installation, installer must drill 4.8 mm holes through grid once the TLMBS is located. For rivet installation the installer must clamp the TLMBS in position, then drill the 4.8 mm holes through the grid. With the clamp still in place, pop-rivet the TLMBS and Main Runner connection.

10. For perimeter treatment, rods must be located within 600 mm off the wall. Consult your engineer and the Technical Guide for more information.

11. Once all the Main Runners and Cross Tees are installed, verify that all connections on the Prelude Max Hanging Clip (PMHC) are tight and a thread locking compound was used before proceeding with the installation. A locking compound is not required, if using a locknut per the illustration on the PMHC connection.

12. Locate the positions of the mechanical equipment (cable trays, bus bars, etc.) that are to be supported and attach the Prelude 24 Max Load Connector (PMLC) to the face of the suspension system. Slide the clip open and engage it on the face of the suspension system. Be sure the two halves of the clip fully engage the clip around the flange of the suspension system and are interlocked together.



PMLC - Load Connector Clip

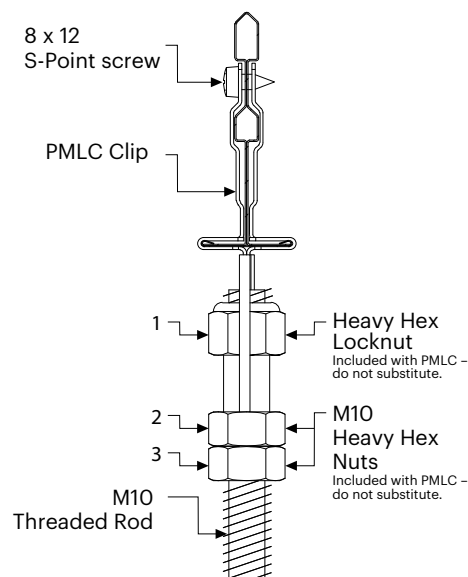
13. Screw the Prelude 24 Max Load Connector (PMLC) clip to the suspension system using an 8 x 12 S-Point screw as shown above. Be sure to screw from the larger hole (the pilot hole) into the smaller hole of the other clip. Only one screw is required to properly install the PMLC.

Install the threaded rod that will be used to support the load using the provided hardware as shown in the detail above.

Hand tighten nuts 1 & 2 until metal to metal contact is made and then turn an additional 1/4 turn with a wrench. Then

hand tighten nut 3 to nut 2 until metal to metal contact is made and then turn an additional 1/4 turn with a wrench. A thread locking compound is required for this connection if you do not use a locknut as shown in the detail above.

**Do not use standard M10 nuts.**



Load Connector Clip Installation

14. Install the ceiling panels

15. If your project requires the Maximum Hold Down Clips, these will be installed in a progressive layout. Leave one panel unclipped for access to the plenum space, and then install the clips progressively from this panel. If there is a specific area of the plenum that will require more access, leave this as your unclipped panel. If access to other panels is needed, remove the clips in reverse order in which they were installed.

## MORE INFORMATION

For complete technical information, detail drawings, CAD design assistance, installation information and many other technical services, call your local Armstrong Ceilings representative.

For the latest product selection and specification data, visit [armstrongceilings.com.au](http://armstrongceilings.com.au)

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